REBUTTAL TESTIMONY OF

JAMES HERNDON

ON BEHALF OF

DOMINION ENERGY SOUTH CAROLINA, INC.

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Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is James Herndon, and I am a Vice President in the Strategy and Planning Practice within the Utility Services Business Unit of Resource Innovations, Inc. ("Resource Innovations"). My business address is 2000 Regency Parkway, Suite 455, Cary, North Carolina 27518.

Q. ARE YOU THE SAME JAMES HERNDON WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to certain matters raised in the direct testimony of Jim Grevatt, witness for the South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE"). Specifically, I am addressing the issues he brought up regarding the market information used to develop the proposed measures and programs and the savings estimates for two equipment measures.

Q. DOES YOUR REBUTTAL TESTIMONY RAISE ANY NEW ISSUES IN THIS PROCEEDING?

A. No, it does not. My rebuttal testimony is limited to addressing matters raised by Witness Grevatt.

Q. DID THE DEVELOPMENT OF THE PROPOSED ENERGY EFFICIENCY ("EE") PROGRAMS INCLUDE CONSIDERATION OF DESC'S CUSTOMER BASE AND MARKET FOR NATURAL GAS ENERGY EFFICIENCY (EE) OPPORTUNITIES?

A. Yes, as I described in my direct testimony, the development of the proposed natural gas EE programs included collecting information on Dominion Energy South Carolina's ("DESC" or "Company") natural gas customer base and collaboration with DESC's natural gas sales team, who provided insight based on their extensive familiarity with their customers and service territory. This collaboration included specific discussions on the needs, interests, and perspectives of DESC customers and contractors, who the Company's sales team interacts with on a daily basis. These collaborative discussions led to the development of the proposed EE measures and programs.

Q. WAS PRIMARY MARKET RESEARCH ON THE CURRENT PENETRATION OF HIGH EFFICIENCY EQUIPMENT IN DESC'S TERRITORY NECESSARY FOR EFFECTIVE PROGRAM DESIGN?

A. No. While the availability of more market data is typically beneficial in developing EE programs, conducting primary research on the current market share of efficient equipment is not a necessary component of designing effective EE programs, particularly for measures that are very common in utility programs throughout the country. As I mentioned previously, the program development process included direct insight from DESC staff that frequently interact with customers and contractors and the final program design was directly informed by this information, as well as Resource Innovations' expertise and experience in designing, implementing, and evaluating natural gas EE programs in the region and throughout the country.

Additionally, while Witness Grevatt included limited information on the availability of highly efficient gas equipment in his testimony, the goal of the program is to increase customer adoption of this available equipment. The proposed equipment measures are similar to those offered by numerous utilities in the region and around the country, including Piedmont Natural Gas in both North Carolina and South Carolina, PSNC Energy in North Carolina, Columbia Gas of Virginia, Virginia Natural Gas, Washington Gas in Maryland, and others, indicating that

numerous other utilities have also identified the need for EE programs to increase customer adoption of high efficiency natural gas equipment.

Q. DO YOU AGREE WITH CCL AND SACE WITNESS GREVATT THAT CONDUCTING MARKET RESEARCH ON THE CURRENT PENETRATION OF HIGH EFFICIENCY EQUIPMENT IN ITS TERRITORY IS "KEY" TO DETERMINING COST-EFFECTIVENESS OF THE PROPOSED INITIATIVE?

A. No, while this information can be useful in determining the applicability of particular EE measures, the current penetration of high efficiency equipment does not directly impact cost-effectiveness calculations. Market saturation data is most beneficial in identifying the remaining market for EE measures (i.e., those customers that have not already adopted the measure), but simply knowing the current market share does not directly determine how the programs will influence customer decisions in the future, nor does it directly affect the determination of cost-effectiveness.

The key elements of determining cost effectiveness include the measure impacts (natural gas savings, incremental cost, measure lifetime), economic inputs (avoided utility costs or bill savings realized by the customer), and the program costs (incentives and program administration costs). These elements were all developed based on DESC-specific data or industry standard references, and support the results that, with the exception of the Low Income Program, each program and the overall

portfolio have benefit/cost ratios greater than 1.0 from the TRC and UCT perspectives.

Q. WITNESS GREVATT QUESTIONS AN APPARENT DISCREPANCY IN NATURAL GAS SAVINGS FOR THE 90% FURNACE AND SMART THERMOSTAT MEASURES IN THE RESIDENTIAL EQUIPMENT REBATE PROGRAM. IS THERE A DISCREPANCY IN SAVINGS ESTIMATES?

A. No, the savings for the 90% furnace and the smart thermostat measures were each calculated using industry standard assumptions, approaches, and references. Because the proposed natural gas measures and programs are new, there are no DESC-specific verified savings available to use. Therefore, the savings were developed using available secondary data. Resource Innovations' preference for secondary data is to initially leverage available verified energy savings from other similar utility programs, typically developed through impact evaluations of actual participants, and adjust as needed based on weather or other normalizing attributes. If verified savings are not available or applicable, the second choice is to use engineering calculations or estimates available through technical reference manuals ("TRM").

The estimates for natural gas savings for the 90% furnace measure were based on verified savings from Piedmont Natural Gas's 90% furnace measure offered in their EE program in North Carolina. The verified savings from

Piedmont's program was adjusted using typical weather data from North Carolina to South Carolina, resulting in the savings estimate of 81 therms used for the proposed DESC program.

For the smart thermostat measure, the basis for natural gas savings was engineering calculations using the heating savings percentage from the Mid-Atlantic TRM. In order to apply this percent savings, an estimate of annual space heating gas use was needed, which relied on the ENERGY STAR's Natural Gas Furnace calculator. This calculator incorporates assumptions on home size, age, and location, and was determined to be an appropriate source for estimating annual baseline use for the smart thermostat measure savings.

It is not uncommon for different secondary sources, which are often developed using different methods and with varying assumptions, to result in different savings estimates for the same measure. Because verified savings were available for the 90% furnace measure from a similar utility program that could be adjusted to DESC's service territory, these savings were the preferred source for the 90% furnace measure, rather than the ENERGY STAR Calculator, which was solely used for average baseline gas consumption estimates for the smart thermostat measure.

Finally, savings for both measures will be verified through the EM&V activities that are planned for the proposed programs.

Q. DO YOU AGREE WITH WITNESS GREVATT'S STATEMENT THAT THE COMMISSION SHOULD BE CONCERNED WHETHER THE COST-EFFECTIVENESS ANALYSIS CONSIDERED NET SAVINGS?

A. No. The annual natural gas savings for the proposed programs were based on the estimated participation of each measure, known as gross savings. Net savings also consider the program's influence and customers' intentions when installing the energy efficient measure and are highly dependent on the local market and the characteristics of the program offering in that market.

For the cost-effectiveness analysis, the net savings were initially considered to be roughly equivalent to the gross savings. This is because the Residential Gas Equipment Program and Commercial Gas Equipment Program are new programs, and natural gas EE programs are new to the Company's customers. Actual net savings values for each program will be determined through the planned evaluation, measurement, and verification ("EM&V") activities. However, due to Witness Grevatt's concern about the TRC test results, a sensitivity was conducted assuming a net-to-gross ratio of 0.8, which reduces the gross savings by 20%. While the benefits were reduced due to the lower savings, both the Residential Gas Equipment Program and Commercial Gas Equipment Program continue to pass the TRC and UCT tests in this sensitivity analysis.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.